# Online International Training Workshop on Lead Poisoning and SDGs: Tackling a Health and Development Crisis in Asia and Africa

## April 28 - May 1, 2025

# POST-EVENT WORKSHOP REPORT

BY ADVANCED STUDY INSTITUTE OF ASIA

&

AFRICAN-ASIAN RURAL DEVELOPMENT ORGANIZATION

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# Executive Summary

**Post-Event Workshop Report:** Lead Poisoning and SDGs in Asia and Africa
**Organized by:** Advanced Study Institute of Asia (ASIA) & African-Asian Rural Development Organization (AARDO)

The **four-day international workshop** focused on lead exposure and its far-reaching impacts on health, education, poverty, inequality and cities and sustainable development, particularly in Asia and Africa. To clearly show our progress, the following structure connects the main points from the workshop to specific indicators and Sustainable Development Goals (SDGs).

**Workshop Objective:**

**Health (SDG 3):** Lead exposure is a major public health crisis, causing neurological, cardiovascular, and developmental harm, especially in children and women of child-bearing age. The workshop highlighted the need for stronger regulations, blood lead level monitoring, and public health interventions to reduce exposure and prevent irreversible damage.

**Poverty and Inequality (SDG 1 & SDG 10):** Lead poisoning disproportionately affects the poor and marginalized, reducing lifelong earning potential and exacerbating inequalities. Addressing lead exposure is essential for breaking the cycle of poverty and achieving more equitable societies.

**Education (SDG 4):** Elevated blood lead levels in children are linked to lower IQ, learning disabilities, and reduced educational attainment, with ripple effects on future opportunities and national productivity.

**Sustainable Cities (SDG 11):** Urban environments are often hotspots for lead exposure due to legacy pollution, informal recycling, and unsafe consumer goods. The workshop called for better urban planning, remediation, and enforcement of environmental standards.

**Responsible Consumption (SDG 12):** Participants stressed the need for safer manufacturing practices, elimination of lead in paints, batteries, and other products, and responsible waste management to minimize lead's release into the environment.

# Participating Institutions

## Host Organisations:

- Advanced Study Institute of Asia (ASIA)
- African-Asian Rural Developmental Organisation (AARDO)

## Participating Organisations

- SGT University, India
- ESDO (Environment and Social Development Organization), Bangladesh
- Pure Earth Bangladesh, Bangladesh
- Centre for Environmental Justice, Sri Lanka
- CEPHED (Center for Public Health and Environmental Development), Nepal
- University of Namibia, University of Zambia
- PGIMER (Postgraduate Institute of Medical Education and Research), India
- Keck School of Medicine, University of Southern California, USA
- AIIMS (All India Institute of Medical Sciences), New Delhi, India
- University of Warwick, United Kingdom

# Panelist and Distinguished Speakers

- His Excellency Dr. Manoj Nardeosingh, Secretary General, AARDO

- Dr Indu Bhushan, Vice Chairperson, ASIA

- Prof. Amogh Rai, Research Director, ASIA

- Mr Aftab Uz Zaman Khan, Program Manager, Pure Earth, Bangladesh

- Reverend Dr Esmond Wisdom Quansah, Country Director, Pure Earth, Ghana

- Ms Siddika Sultana, CEO / Executive Director, Environment and Social Development Organization (ESDO), Bangladesh

- Mr Hemantha Withanage, Co-founder, Centre for Environmental Justice (CEJ), Chair, Friends of the Earth International, Sri Lanka

- Ms Larah Ibanez, Country Director, Pure Earth Philippines, Philippines

- Mr Ram Charitra Sah, Executive Director, Center for Public Health and Environmental Development, Nepal

- Dr John Yabe, Lecturer, University of Namibia, Namibia

- Dr Prasenjit Mitra, Associate Professor, Postgraduate Institute of Medical Education and Research (PGIMER), Chandigarh

- Dr Ludovica Gazze, Associate Professor, University of Warwick , UK

# Panelist and Distinguished Speakers

- Prof Shefali Gulati, All India Institutes of Medical Sciences, New Delhi

- Ms Maliha Hoque, Assistant Program Officer, ESDO Bangladesh

- Dr Shalini Kapoor, Director Research & Development Cell, SGT University, India

- Dr Archana Chaudhary, Dept. of Environmental Science, Associate Professor, SGT University

- Dr Shilpa Kamra, Associate Professor,Department of Periodontology SGT Dental College, SGT University

- Dr Deepali Sharma, , Department of Nutrition & Dietetics, Faculty of Allied Health Sciences, SGT University

- Ms Shivani Singh, Program Coordinator for Law & Critical Emerging Technologies,Advanced Study Institute of ASIA

# Coordinators

- Dr Sanjeeb K Behera, Head, IEC Division, AARDO

- Mr Kamal Dhemja, Head, Administration Division, AARDO

- Ms Shipra Agarwal, Senior Analyst: Health Disparities and Meta Evidence, ASIA

- Ms Neeti Goutam, Senior Manager, Research Communications, ASIA

# Day 1 Highlights: International Workshop on Lead Poisoning & SDGs

**Neeti Goutam (ASIA)** welcomed global participants, introduced the ASIA-AARDO partnership, and emphasized the critical links between lead exposure and the Sustainable Development Goals (SDGs), setting the stage for the workshop's discussions.

**Shipra Agarwal (ASIA)** outlined the workshop's objectives: addressing the scale and impact of lead poisoning in Asia and Africa, showing how it undermines SDGs related to health, education, inequality, sustainable cities, and responsible consumption, and focusing on raising awareness, practical knowledge, and policy collaboration.

**Dr Indu Bhushan (ASIA)** described lead poisoning as a major public health and development crisis in India, shared alarming data on children's blood lead levels and economic losses (5% of GDP), and called for a multi-sectoral approach with stronger regulations. She welcome the distinguish guests and moderated the session.

**Amogh Rai (ASIA)** discussed how weak regulations and local economic factors make lead pollution a global yet locally rooted challenge, linked lead exposure to setbacks in multiple SDGs, and highlighted the high economic return ($155 for every $1 invested) in enforcing lead paint regulations.

**Aftab Uz Zaman Khan (Pure Earth, Bangladesh)** reported 53.5% of Bangladeshi children have elevated blood lead levels, identified informal battery recycling, consumer products, and contaminated spices as key sources, and stressed a holistic, multi-stakeholder approach for solutions.

**Rev. Dr. Esmond Quansah (Pure Earth, Ghana)** shared that over 50% of Ghanaian children are affected, detailed the impact on SDGs, and presented targeted interventions in health surveillance, remediation, capacity building, and advocacy.

**Siddika Sultana (ESDO, Bangladesh)** highlighted Bangladesh's adoption of a 90 ppm standard for decorative paints, called for urgent action to achieve SDGs, and advocated for stronger regulations, education, and comprehensive testing.

**Hemantha Withanage (CEJ, Sri Lanka)** described Sri Lanka's 2013 lead paint standard, support for manufacturers, third-party certification, and the need for more research and blood lead data.

**Ram Charitra Sah (CEPHED, Nepal)** called for harmonized regional lead standards and urged increased research, data collection, and cross-border collaboration.

**Larah Ibanez (Pure Earth, Philippines)** noted limited data but clear cause for concern, highlighted regression in SDG 3 (health) and SDG 11 (sustainable cities), and called for sustained data collection and proactive interventions.

**Dr Prasenjit Mitra (PGIMER, India)** stressed the need to go beyond measuring blood lead levels, called for research into molecular and immunological mechanisms, and advocated for stronger regulation, public health investment, and safe housing.

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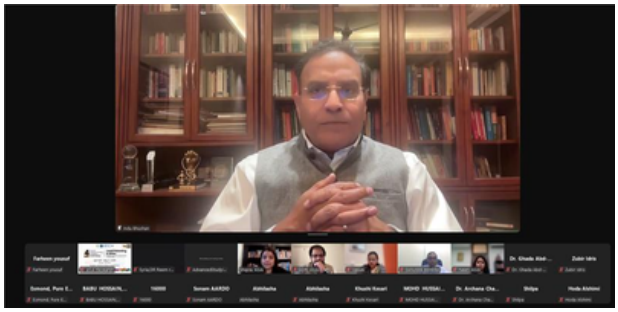
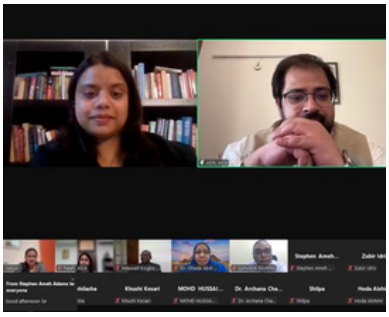
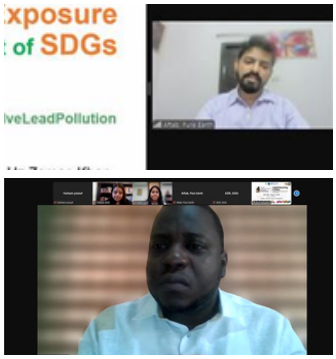
**The opening session set a collaborative tone, representatives from ASIA, AARDO, and partner organizations outlined the scale of the lead poisoning crisis, its economic and health costs, and the urgent need for multi-sectoral action.**

**A special thanks to Little Things Matter, for granting permission to showcase the impactful video on "Crime of the century"**

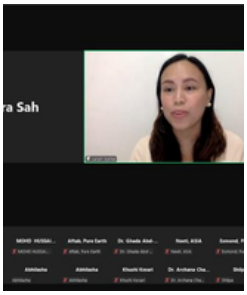


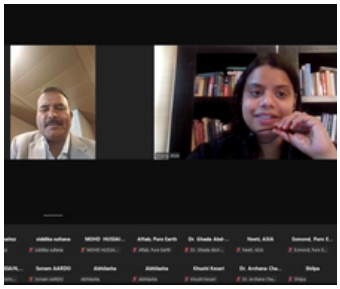


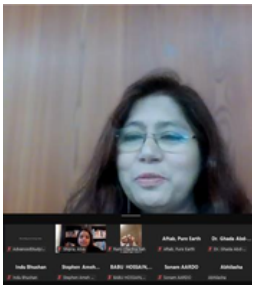


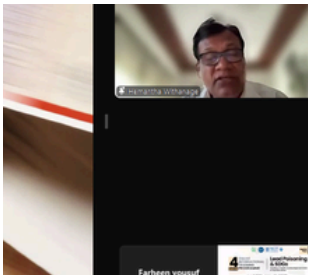

## Key Messages

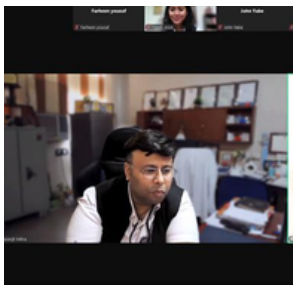
| Speaker | Key Message/Statistic | SDGs Impacted | Country |
|---|---|---|---|
| **Dr. Indu Bhushan** | 5% GDP lost to lead exposure; high blood lead in children; called for multi-sectoral action | 1, 3, 4, 10, 11 | India |
| **Amogh Rai** | Local economic factors & weak regulation make lead a global/local issue; $155 return per $1 invested | 3, 4, 8, 10, 11, 12 | India |
| **Aftab Uz Zaman Khan** | 53.5% of children with high blood lead; sources: batteries, products, spices; called for holistic action | 3, 4, 10 | Bangladesh |
| **Esmond Quansah** | >50% of children affected; lead undermines health, education, work, inequality; targeted interventions | 3, 4, 8, 10 | Ghana |
| **Siddika Sultana** | 90 ppm paint standard adopted; urgency for SDG action; called for stronger regulation & education | 3, 12 | Bangladesh |
| **Hemantha Withanage** | 90 ppm paint standard, support for manufacturers, need for more data/research | 3, 12 | Sri Lanka |
| **Ram Charitra Sah** | Called for harmonized regional lead standards, more research, and collaboration | 3, 4, 10, 12 | Nepal |
| **Larah Ibanez** | Regression in SDG 3 & 11 since 2015; limited data but clear concern; called for proactive intervention | 3, 11 | Philippines |
| **Dr. Prasenjit Mitra** | No safe lead level; urged research on mechanisms; advocated for regulation, public health, safe housing | 3, 4, 11, 12 | India |











# Day 2 Highlights: Poverty Reduction (SDG 1) and Reduced Inequalities (SDG 10)

**Shipra Agarwal (ASIA)** opened the day 2 of the workshop warmly welcoming the assembled experts and participants. She recaps the Day 1 and emphasized the understanding Lead Exposure and Its Impact on Achieving the SDG, setting the stage for the specific workshop discussions.

**Neeti Goutam (ASIA)** moderated the panel discussion: a session focused on SDG 1 (No Poverty) and SDG 10 (Reduced Inequalities) in relation to lead poisoning. She highlights the issue in brief and started off the discussion.

**Dr John Yabe (University of Namibia)** highlighted the severe impact of lead poisoning in Kabwe, Zambia-one of the world's most polluted towns due to historical mining. Presenting data from the KAMPAI project, he revealed alarmingly high blood lead levels (BLLs) among over 1,250 residents, with some reaching 162 µg/dL. Infants exhibited higher BLLs than their mothers, indicating early-life exposure via maternal blood and contaminated soil. Dr. Yabe identified contaminated soil and dust in hotspots like Kasanda and Makululu as major exposure sources. He detailed remediation efforts under the World Bank's ZMERIP project, such as paving over 1,000 homes to reduce dust and establishing lead monitoring labs.

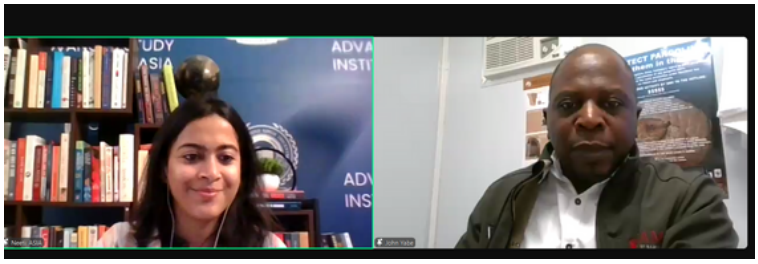
**Dr Archana Chaudhary (SGT University)** highlighted several major lead-contaminated sites across the country, underlining how industrial activities, poor regulation, and informal sectors have contributed to widespread pollution. She addressed the regulatory shortcomings, noting that over 500 toxic sites have been identified but remain Un-remediated due to bureaucratic delays and insufficient enforcement. With the rise in electric vehicle (EV) adoption, she warned of a projected 300% increase in lead-acid battery demand between 2025 and 2030, which could further intensify exposure risks.

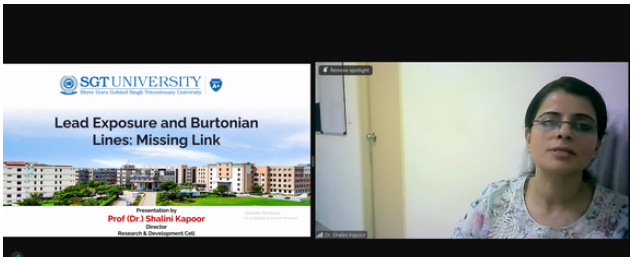
**Dr Shalini Kapoor (SGT University)** Dr. Shalini Kapoor focused on assessing the prevalence of Burtonian lines as an early oral marker of chronic lead exposure in rural Haryana. Her cross-sectional study covered 725 participants across 22 districts, targeting WHO index age groups (5, 12, 15, 35–44, and 65–74 years). Lead, a toxic heavy metal with no safe exposure level, enters the body via air, water, and occupational exposure. Burtonian lines—bluish-black deposits at the gum margin—signal systemic toxicity. The study used structured questionnaires and clinical exams, along with atomic absorption spectrophotometry to assess water lead levels. Key findings emphasize children's higher risk, delayed tooth eruption, enamel defects, and bone changes. Dr. Kapoor's work highlights the urgent need for early oral diagnosis, public awareness, and targeted interventions in environmentally at-risk rural populations.

**Ms Shivani SIngh (ASIA)** focused on the global public health crisis of lead exposure, emphasizing it as both a governance and human rights issue. Despite being naturally occurring, lead's risks have been amplified by industrialization and use in paints, pipes, and fuel. WHO and CDC confirm there is no safe level of exposure, with cognitive damage observed at blood lead levels as low as 2 µg/dL. Each 1 µg/dL increase reduces IQ by 0.7 points. The economic burden is immense—$1 trillion in global productivity loss (UNICEF & Pure Earth, 2020). In India, 275 million children exceed the 5 µg/dL threshold; in slums of Delhi and Mumbai, 30% of children show levels above 10 µg/dL. Compliance gaps are stark—India lacks centralized lead laws, and 40% of enamel paints still exceed safe lead levels. Ms. Singh called for universal risk assessments, equity in environmental health, and urgent policy reform to break the cycle of poverty and lead toxicity.

**A special thanks to Pure Earth Bangladesh for granting permission to showcase the impactful video highlighting lead exposure among children in Bangladesh.**

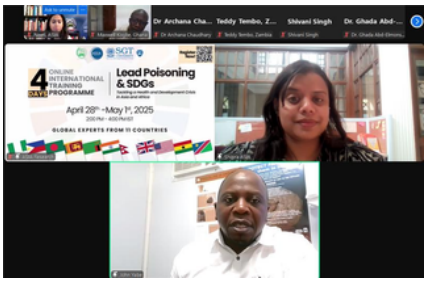
**We also extend our heartfelt gratitude to Prof. Howard Hu for his brief remarks on the critical importance of addressing lead exposure to advance progress toward achieving the Sustainable Development Goals (SDGs) in every country.**

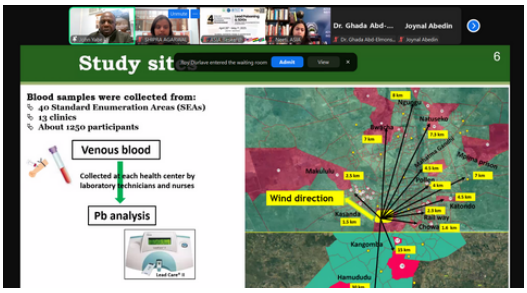


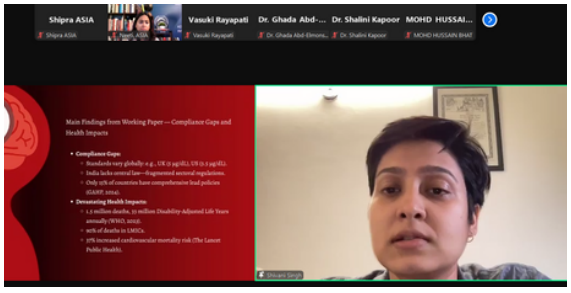


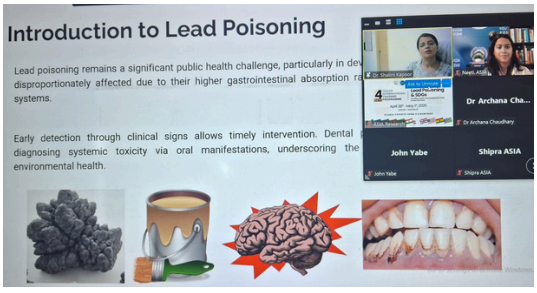

## Key Messages

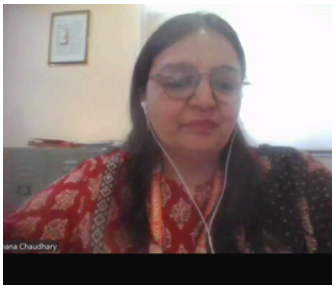
| Speaker | Key Message/Statistic | SDGs Impacted | Country |
|---|---|---|---|
| **Dr John Yabe** | Kabwe, Zambia—one of the most lead-polluted towns globally. Data from the KAMPAI project revealed blood lead levels (BLLs) as high as 162 µg/dL | 3, 11,13 | Namibia |
| **Dr Archana Chaudhary** | India's regulatory failures, noting over 500 toxic sites remain unremediated. 300% projected increase in lead-acid battery demand (2025–2030) due to the rise in EVs | 12,9,13 | India |
| **Dr Shalini Kapoor** | Burtonian lines—bluish-black marks on gums—as indicators of chronic lead toxicity, reinforcing the urgent need for community awareness and early oral screening.<br>SDGs addressed: | 3,6,10 | India |
| **Ms Shivani Singh** | lead exposure as a governance and equity issue, citing 275 million Indian children with BLLs >5 µg/dL and 30% of slum children with levels >10 µg/dL. She highlighted a $1 trillion global productivity loss and stressed that each 1 µg/dL increase in BLL reduces IQ by 0.7 points | 1,4,10,16 | India |



# Day 3 Highlights: Health Implications (SDG 3) and Impact on Quality Education (SDG 4)

**Neeti Goutam (ASIA)** opened the day 3 of the workshop warmly welcoming the assembled experts and participants. She recaps the Day 2 and emphasized the critical links between lead exposure and the Sustainable Development Goals (SDGs) with the theme “Lead Exposure: Impact on Poverty and Inequality”, setting the stage for the workshop’s discussions.

**Shipra Agarwal (ASIA)** moderated the Day 3 session; she welcomed the speakers of the lecture and presentation session for the day by uniting Health and Education for a Lead-Free Future, the critical links between lead exposure and the Sustainable Development Goals-particularly SDG 3 (Good Health and Well-being) and SDG 4 (Quality Education).

**Larah Ibanez (Pure Earth, Philippines)** presented findings from blood lead level testing in Enns and shared insights from a childhood lead poisoning survey in the Philippines. She outlined progress in the fight against lead poisoning, including blood lead level screenings and home-based assessments conducted in partnership with the National Poison Management and Control Center and local government units. She called for developing national case management guidelines and integrating lead case detection in maternal and child visits.

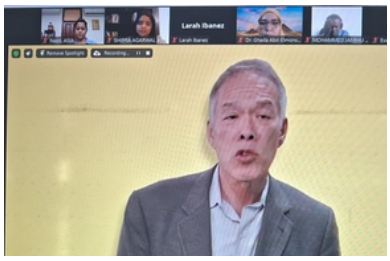
**Dr Prasenjit Mitra (PGIMER, India)** presented on the immunological aspects of lead toxicity, outlining the major mechanisms of lead's action and its connection to the immune system, particularly how lead affects T helper cells. Dr. Mitra emphasized that lead exposure is a silent killer with wide-ranging health impacts and explained how lead exposure disrupts the immune system by affecting the balance of pro-inflammatory and anti-inflammatory cytokines.

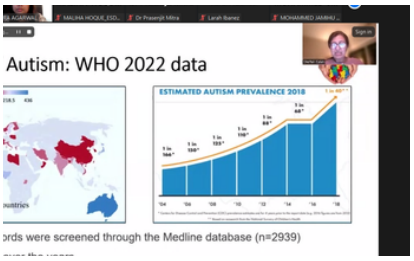
**Dr Howard Hu (Keck School of Medicine, United States)** explained the profound dangers of lead exposure on human health, describing how lead mimics calcium and disrupts critical brain development processes. He emphasized that lead exposure can begin in the womb and its impact is lifelong and transgenerational. Dr. Hu stressed there is no safe level of lead exposure and that chelation therapy does not reverse cognitive damage in children, making prevention the only effective solution.

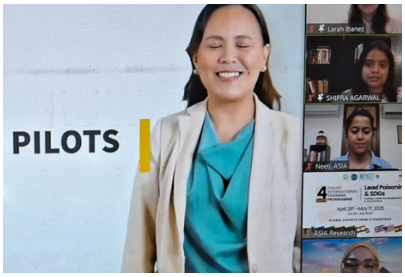
**Maliha Hoque (ESDO, Bangladesh) presented** on the socio-economic and health impacts of lead exposure on children in Bangladesh, highlighting the significant prevalence of elevated blood lead levels among children and suggesting measures including cross-sectoral action plans and regulation of lead in paints and toys.

**Dr Professor Shefali Gulati (AIIMS, New Delhi, India)** stressed that environmental contaminants, particularly heavy metals like lead, mercury, and arsenic, disrupt enzyme functions, alter cellular signaling, and cause oxidative stress leading to neuronal damage, resulting in a spectrum of effects from subtle behavioral changes to severe intellectual disability. She particularly noted the connection between heavy metal exposure and autism spectrum disorder, explaining that children with ADHD have lower glutathione levels, making them more susceptible to mercury toxicity, which increases pro-inflammatory cytokines and disrupts neuronal connectivity.

**Dr Ludovica Gazze (University of Warwick, United Kingdom**) presented research examining the spillover effects of lead exposure on non-exposed children in schools, showing that having more lead-exposed peers negatively impacts high school graduation rates and college intentions for non-exposed students, with larger effects for disadvantaged groups.

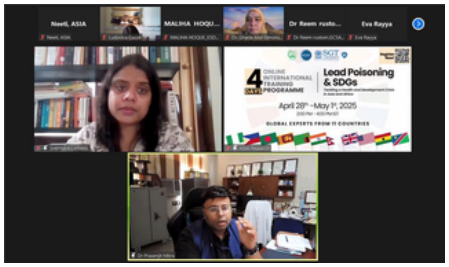


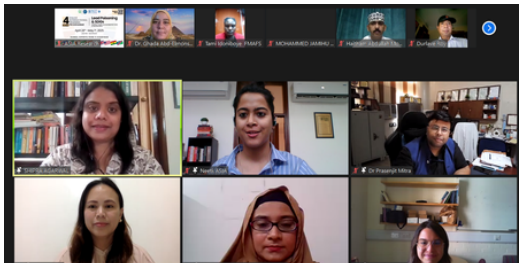


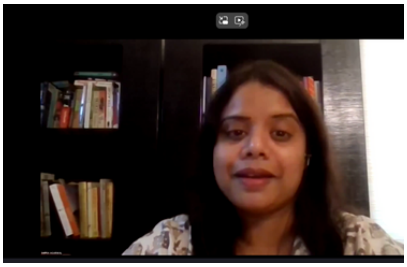



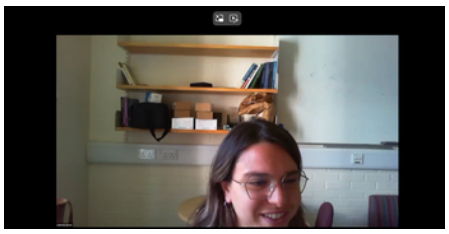

## Key Messages

| Speaker | Key Message/Statistic | SDGs Impacted | |
|---|---|---|---|
| **Larah Ibanez** | Highlighted children's vulnerability to lead, need for early detection/intervention, and whole supply chain assessment; shared data on high blood lead levels and learning deficits; called for integrating lead awareness in education and health systems. | 3, 4, 10, 11 | |
| **Dr. Prasenjit Mitra** | Explained lead's immunological impacts, disruption of T helper cells, and wide-ranging health effects; called for more research on multi-metal exposures and larger cohorts. | 3, 4, 10, 11, 17 | |
| **Dr. Howard Hu** | Stressed there is no safe level of lead; lead exposure disrupts brain development, causes lifelong/transgenerational harm; prevention is the only solution. | 3, 4, 10 | |
| **Maliha Houqe** | Outlined socio-economic and health impacts of lead poisoning in Bangladesh; called for multi-sectoral action, regulation, and school health integration. | 1, 3, 4, 10 | |
| **Prof. Shefali Gulati** | Linked lead exposure to autism, ADHD, and neurodevelopmental disorders; emphasized children's higher vulnerability and need for early diagnosis and intervention. | 3, 4, 10 | |
| **Ludovica** | Showed lead exposure's spillover effects on non-exposed children, reducing graduation rates and increasing societal costs, especially for disadvantaged groups. | 4, 10 | |

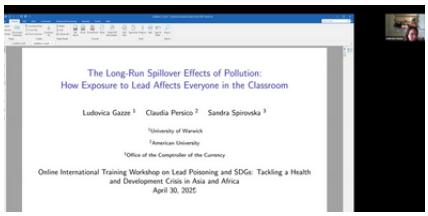










# Day 4 Highlights: Sustainable Cities and (SDG 11) and Responsible Consumption and Production (SDG 12)

**Ms Shipra Agarwal (ASIA)** opened the session and built on the previous day's discussions, which emphasized the link between public health and quality education; the session called for integrated, cross-sectoral responses. She invited **Ms Neeti Goutam,** moderator for the day, to explain the importance of the session theme.

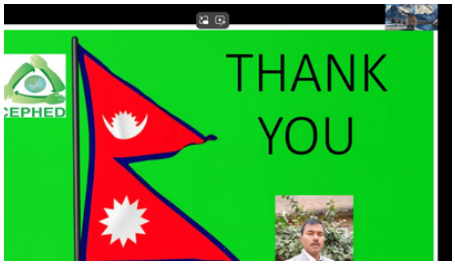
**Mr Ram Charitra Sah (CEPHED, Nepal)** delivered a powerful session on Nepal's ongoing battle against lead exposure, particularly from paints and consumer products. He highlighted that despite the enactment of a mandatory 90 ppm lead paint standard in 2015, 48% of enamel paints still exceed this limit, with every second paint can posing a risk. Lead was also found in school dust (23% samples >40 µg/ft²) and popular children's snacks, as well as Ayurvedic medicines, where lead levels ranged up to 209.7 ppm, far above the WHO safe limit of 10 ppm. Alarmingly, 84% of children in an industrial city study had blood lead levels (BLL) >10 µg/dL, with some exceeding 35 µg/dL. Mr. Sah called for urgent national BLL screening, stricter enforcement, and public awareness to address the 4% GDP loss Nepal suffers due to lead exposure.

**Dr Shilpa Kamra (SGT University)** presented a critical study on lead content in conventional and herbal toothpastes in India, raising alarm over an overlooked daily exposure risk. Out of 14 toothpaste brands tested, 43% exceeded the BIS permissible lead limit of 20 ppm, with some like Dant Kanti (70.35 ppm) and Dabur Red (69.91 ppm) far surpassing safe levels. Using Atomic Absorption Spectroscopy, her study revealed that even popular "herbal" and widely trusted brands contained unsafe lead levels. Lead is easily absorbed through the oral mucosa, especially in children who may accidentally ingest toothpaste. Dr. Kamra emphasized the urgent need for mandatory lead disclosure on labels, public awareness campaigns, and routine regulatory testing, especially for products marketed as safe or herbal. Her findings position oral products as a hidden but dangerous source of lead toxicity.

**Rev Dr Esmond Wisdom Quansah (Pure Earth, Ghana)** presented a compelling case study on urban lead pollution in Ghana, revealing that approximately 1.2 million children are affected by lead poisoning. Main sources included industrial pollution, contaminated soil and dust, metal cookware (77% >100 ppm lead), and traditional cosmetics like "chilo" eyeliner—some samples contained up to 100% lead, vastly exceeding the national limit of 1 ppm. Soil lead concentrations in industrial zones like Ashaiman reached 7,170 ppm, nearly 20 times the US EPA safety standard. His presentation highlighted the urgent need for national policies, risk assessments, and interventions. His work, in collaboration with UNICEF and the Ghana Health Service, led to a Declaration of National Action and enforcement measures, including the closure of polluting ULABs by the Environmental Protection Authority.

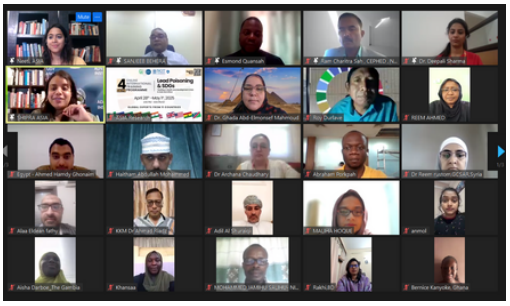
**Dr Deepali Sharma (SGT University)** highlighted the alarming presence of lead contamination in India's dairy and food supply chains, with milk being a critical carrier. A study in Budhera village, Haryana, found lead levels in milk samples exceeding the FSSAI limit of 2.5 ppm, with one packaged milk sample at 1.52 ppm and a raw milk sample at 0.63 ppm. Nationally, milk contributes 12–18% of dietary lead intake in urban households. Shockingly, a study in Bihar showed 92% of breast milk samples contained unsafe lead levels. Traditional treatments using activated charcoal and calcium filtration reduced lead levels only modestly—by 4.76% and 15.87%, respectively—yet levels remained unsafe.

**A special thanks to Dr Sanjeeeb Behera, Head IEC Division, AARDO, for his special concluding remarks. Thanks to ESDO Bangladesh for granting permission to showcase the impactful video "Are festival colors always safe"**
**We gratefully acknowledge [U.S. Government Accountability Office (GAO)] for using the video featured during this workshop.**

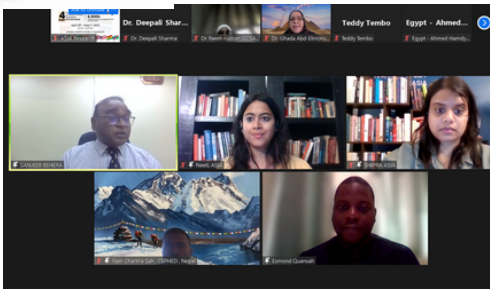




## Key Messages

| Speaker | Key Message/Statistic | SDGs Impacted | |
|---|---|---|---|
| **Mr Ram CharitraSah** | Every second enamel paint product purchased is likely to breach national standards. Additionally, school dust samples showed 23% exceeded 40 µg/ft², and snack powders for children had lead levels up to 1.6981 mg/kg. Mr. Sah's key message was that implementation gaps, not policy absence, remain the primary obstacle. | 3,12,16 | Nepal |
| **Dr Shilpa Kamra** | lead content in conventional and herbal toothpastes in India, raising alarm over an overlooked daily exposure risk. Out of 14 toothpaste brands tested, 43% exceeded the BIS permissible lead limit of 20 ppm, with some like Dant Kanti (70.35 ppm) and Dabur Red (69.91 ppm) far surpassing safe levels. | 3,12,16 | India |
| **Rev Dr Esmond Wisdom Quansah** | His work, in collaboration with UNICEF and the Ghana Health Service, led to a Declaration of National Action and enforcement measures, including the closure of polluting ULABs by the Environmental Protection Authority. | 3,6,11,12,16 | Ghana |
| **Dr Deepali Sharma** | Outlined socio-economic and health impacts of lead poisoning in Bangladesh; called for multi-sectoral action, regulation, and school health integration. | 2,3,6,12 | India |





# Next Steps

Where do you go from here? This workshop has laid the foundation for action by bringing together experts, healthcare professionals and policy makers to understand the urgent challenges of lead poisoning and its impact on sustainable development. Moving forward, the focus must be on translating knowledge into concrete steps-strengthening regulations, expanding blood lead screening, raising public awareness, and fostering cross-sector collaboration. These efforts will ensure that the insights gained lead to effective policies and interventions, protecting vulnerable populations and advancing progress toward the Sustainable Development Goals.

## 01. Launch Regional Lead Screening and Awareness Campaigns

**Description:** Initiate blood lead level testing in high-risk communities and roll out public education on lead exposure.
**Rationale:** Early detection and awareness empower families and communities to prevent harm.
**Intended Impact:** Protect more children and vulnerable groups from lead poisoning and build informed, safer communities.

## 02. Strengthen and Enforce Lead Regulations

**Description:** Advocate for stricter lead limits in paints, consumer products, food, and water, and ensure regular monitoring and enforcement.
**Rationale:** Reducing lead at the source is the **most effective way to prevent exposure.**
**Intended Impact:** Safer everyday environments and products, leading to healthier lives.

## 03. Build Multi-Sector Partnerships for Lasting Solutions

**Description:** Foster collaboration among government, health, education, industry, and civil society to coordinate lead prevention efforts.
**Rationale:** Complex challenges require teamwork and shared expertise.
**Intended Impact:** Stronger, more sustainable progress towards a lead-free future and the achievement of SDGs.

**Online International Training Workshop on Lead Poisoning and SDGs: Tackling a Health and Development Crisis in Asia and Africa**

**Date:** 28th April to 1st May**, Timings-** 14:00 PM to 16:00 PM **(IST)**

**AGENDA**

| **Day 1: Introduction to Lead Exposure and SDGs** | | | **28th April** |
|---|---|---|---|
| **Objective:** Understanding Lead Exposure and Its Impact on Achieving the SDGs | | | |
| 14:00–14:05 PM | **Welcome & Opening Remarks** | By Neeti Goutam (ASIA Team) | Welcome participants and Introduction of the workshop |
| 14:05–14:15 PM | **Video** | - | Video on global health and environmental impacts of lead exposure |
| 14:15–14:20 PM | **Introduction: Overview of SDGs** | By Shipra Agarwal (ASIA Team) | Brief overview of the SDGs, their global importance, and relevance to lead exposure. |
| 14:20–14:25 PM | **Icebreaker Activity** | By Shipra Agarwal (ASIA Team) | Participants share one environmental or health issue they care about. |
| 14:25–14:30 PM | **Introduction** | By Shipra Agarwal (ASIA Team) | Introduction of special guests. |
| 14:30–14:40 PM | **Key note address** | Dr. Indu Bhushan, Vice Chairperson, ASIA | Importance of addressing lead exposure in sustainable development, cognitive development and economic impact |
| 14:40–14:50 PM | **Special Remarks** | Prof. Amogh Rai, Research Director, ASIA | Impact of lead exposure on poverty & inequality, and links to SDGs. |
| 14:50 –15:50 PM | **Panel Discussion**<br><br>*"How important is to address lead exposure in your country for the achievement of the Sustainable Development Goals (SDGs)?*<br><br>**(5 mins each speaker except one presenter** | Moderated by Shipra Agarwal (ASIA Team) | - **Presenter: Ms Mitali Das** (Country Director (Acting), Pure Earth Bangladesh) 14:55 –15:10 PM<br>- **Reverend Dr Esmond Wisdom** Quansah (Country Director, Pure Earth, Ghana) 15:10 – 15:15 PM<br>- **Ms Siddika Sultana** (CEO/ Executive Director, ESDO, Bangladesh) 15:15 –15:20 PM<br>- **Mr Hemantha Withanage** (Chair and Co- founder, Centre for Environmental Justice, Sri Lanka) 15:20 – 15:25 PM<br>- **Ms Larah Ibanez** (Country Director, Pure Earth the Philippines) 15:25 –15:30 PM<br>- **Mr Ram Charitra Sah** (Executive Director, CEPHED, Nepal) 15:30 –15:35 PM<br>- **Dr. John Yabe,** Lecturer, The University of Zambia) 15:35 –15:40 PM<br>- **Dr. Prasenjit Mitra** (PGIMER Chandigarh, India)15:40 –15:45 PM |
| 15:58–16:00 PM | **Closing Remarks** | By Shipra Agarwal (ASIA Team) | - |

| **Day 2: Poverty Reduction (SDG 1) and Reduced Inequalities (SDG 10)**<br>**Objective:** Lead Exposure: Impact on Poverty and Inequality | | | **29th April** |
|---|---|---|---|
| 14:00–14:05 PM | **Introduction & Recap** | By Shipra Agarwal (ASIA Team) | Summary of Day 1 and Introduction |
| 14:05–14:12 PM | **Video by Pure Earth, Bangladesh** | | The pure Earth video is a story of a young boy |
| 14:12–14:15 PM | **Interactive Warm- Up** | By Shipra Agarwal (ASIA Team) | Quiz on lead exposure's |
| 14:15–15: 45 PM | **Lectures & Presentations**<br><br>**(20 mins each speaker)** | Moderated by Neeti Goutam (ASIA Team) | - **Dr Archana Chaudhary:** (Assoacite professor, SGT University) Addressing Health, Poverty, and Ecosystem Risks (Case study) 14:20– 14:40 PM<br>- **Dr John Yabe:** (Senior Lecturer of Veterinary Pathology at the University of Namibia) Impact on children, environmental contamination (Zambia) 14:40 – 15:10 PM<br>- **Video: Dr Howard Hu:** (Flora L. Thornton Chair and Professor at the Keck School of Medicine) 15:10 – 15:15 PM<br>- **Dr Shalini Kapoor** (Dean Research, SGT University, India)**:** Lead Exposure and Burtonian line 15:15 –15:35 PM<br>- **Shivani Singh** (Program Coordinator Law, ASIA)**:** No Safe Blood: Understanding Lead Exposure, Compliance Gaps, and Its Link to Poverty and Inequality 15:35 –15:45 PM |
| 15:45–16:00 PM | **Breakout Session** | By Shipra Agarwal (ASIA Team) | Interactive session for all participants in the Breakout Room. |
| 16:00 PM | **Closing Remarks** | By Shipra Agarwal (ASIA Team) | |

| **Day 3: Health Implications (SDG 3) and Impact on Quality Education (SDG 4)**<br>**Objective:** Uniting Health and Education for a Lead-Free Future | | | **30th April** |
|---|---|---|---|
| 14:00–14:05 PM | **Introduction & Recap** | By Neeti Goutam (ASIA Team) | Introduction & Summary of Day 2 |
| 14:05–16:00 PM | **Lectures & Presentations**<br><br>**(20 mins each speaker and 10-15 mins for video)** | Moderated by Shipra Agarwal (ASIA Team | - **Larah Ibanez:** Blood lead level testing in ENNS, childhood lead poisoning survey 14:10 –14:30 PM<br>- **Video: Prof Howard Hu:** Healthy Tomorrows: How Lead (Pb) Affects Children and Lifelong Health) 14:30–14:45 PM<br>- **Dr Prasenjit Mitra:** Immunological aspects of Lead toxicity 14:45 –15:05 PM<br>- **Ms Siddika Sultana:** Uniting Health and Education for a Lead-Free Future 15:05 –15:25 PM<br>- **Video: Prof Dr Shefali Gulati** (AIIMS, New Delhi India)**:** Lead/heavy metals and cancer, autism, dementia in children 15:25 –15:45 PM<br>- **Prof Ludovica Gazze** (University of Warwick, United Kingdom): Impact of lead exposure on peers, education outcomes 15:45 –16:05 PM |
| 16:00–16:05 PM | **Interactive Q/A** | By Neeti Goutam (ASIA Team) | - |
| 16:05 PM | **Closing Remarks** | By Neeti Goutam (ASIA Team) | - |

| Day 4: Sustainable Cities and (SDG 11) and Responsible Consumption and Production (SDG 12) 1st May<br>**Objective:** Lead-Free Future: Healthier Urban Environments and Sustainable Consumption Practices | | | |
|---|---|---|---|
| 14:00–14:05 PM | **Introduction & Recap** | By Shipra Agarwal (ASIA Team) | Introduction and Summary of Day 3 |
| 14:05–14:10 PM | **Video By ESDO** | | |
| 14:10–14:15 PM | **Interactive Warm- Up** | By Shipra Agarwal (ASIA Team) | |
| 14:15–14:20 PM | **Photograph and Networking** | By Shipra Agarwal & Neeti Goutam (ASIA Team) | |
| 14:20–15:50 PM | **Lecture & Presentations**<br><br>**(20 mins each to speakers)** | Moderated by Neeti Goutam (ASIA Team) | - **Dr Shilpa Kamra** (Assistant Professor, SGT University, India)**:** Lead content in conventional and herbal toothpaste (Case study) 14:20 –14:40 PM<br>- **Mr Ram Charitra Sah:** Use of Lead in paint and consumer products 14:40 –15:00 PM<br>- **Short Video on Lead awareness** 15:00 –15:05 PM<br>- **Dr. Deepali Sharma** (Assistant Professor, SGT University, India): Lead in Food Supply Chains (Case study) 15:05–15:25 PM<br>- **Reverend Dr. Esmond Wisdom Quansah:** Urban lead pollution case study 15:25–15:45 PM |
| 15:50–15:55 PM | **Final Closing Remarks** | DrSanjeeb Behra, AARDO) | |
| 15:55–16:00 PM | **Vote of Thanks** | By Shipra Agarwal (ASIA) | |

# Acknowledgements

The success of this four-day international workshop on lead exposure and its impact on Sustainable Development Goals is attributed to the dedication and collaborative spirit of numerous individuals and organizations.

**We extend our sincere gratitude to:**

- All Participants for your active engagement.
- Speakers and Presenters for sharing your invaluable research, insights, and experiences.
- We sincerely thank the U.S. Government Accountability Office (GAO), Environmental and Social Development Organization (ESDO), Idaho Department of Environmental Quality (idahodeq), and Little Things Matter for their valuable contributions and support.
- African-Asian Rural Development Organization (AARDO) for your partnership and vision made this vital event possible.
- Moderators and Facilitators to ensured smooth and productive discussions.

**We thank you for your continued support in our efforts to contribute to the Lead exposure.**

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